Appliance Efficiency Standards Workshop
California Energy Commission

SDG&E/SoCalGas Appliance Efficiency Efforts

Presented by Jerine Ahmed and Jon McHugh

January 15, 2008

Introduction

- Advocate improvements to appliance efficiency standards
- Undertake Codes and Standards Enhancement (CASE) Studies in support of CEC's Appliance Efficiency Standards
- Collaborative effort with IOU's to harmonize activities and avoid duplication of efforts
- Coordinate efforts with stakeholders including CEC, industry, trade associations, manufacturers

Current & Future Efforts

- Focused on appliances without Federal Standards, not at risk of federal preemption
- Develop test standards
- Establish minimum performance standards
- Current and Future Efforts:
  - Commercial Gas Dryer - presented in detail
  - Commercial Radiant Heaters
  - Gas Convection Oven
  - Burner Flame Control
  - Barbeques and Patio Heaters
  - Air Curtains
  - Collaboration with other IOUs

Commercial Gas Dryer Standards

Presented by:

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On behalf of SDG&E and SoCalGas

January 15, 2008

Introduction

- DOE definition for clothes dryer:

  A cabinet-like appliance designed to dry fabric in a tumble-type drum with forced air circulation

- Use gas or electricity as heating source
- Commercial gas dryers are similar to residential clothes dryer, but for different applications:
  - Coin laundries: Laundromat and multi-family housing
  - On-premise laundries: hospitality industry, retirement facilities, hospitals, restaurants, health clubs, salons and spas, correctional facilities, fire departments, schools

Efficiency Standards Status

- Federal regulations cover residential clothes washers and dryers, and commercial washers
- DOE is trying to update standards for residential clothes dryer (last meeting held in October 2007)
- DOE has no plan on developing standards for commercial gas dryers

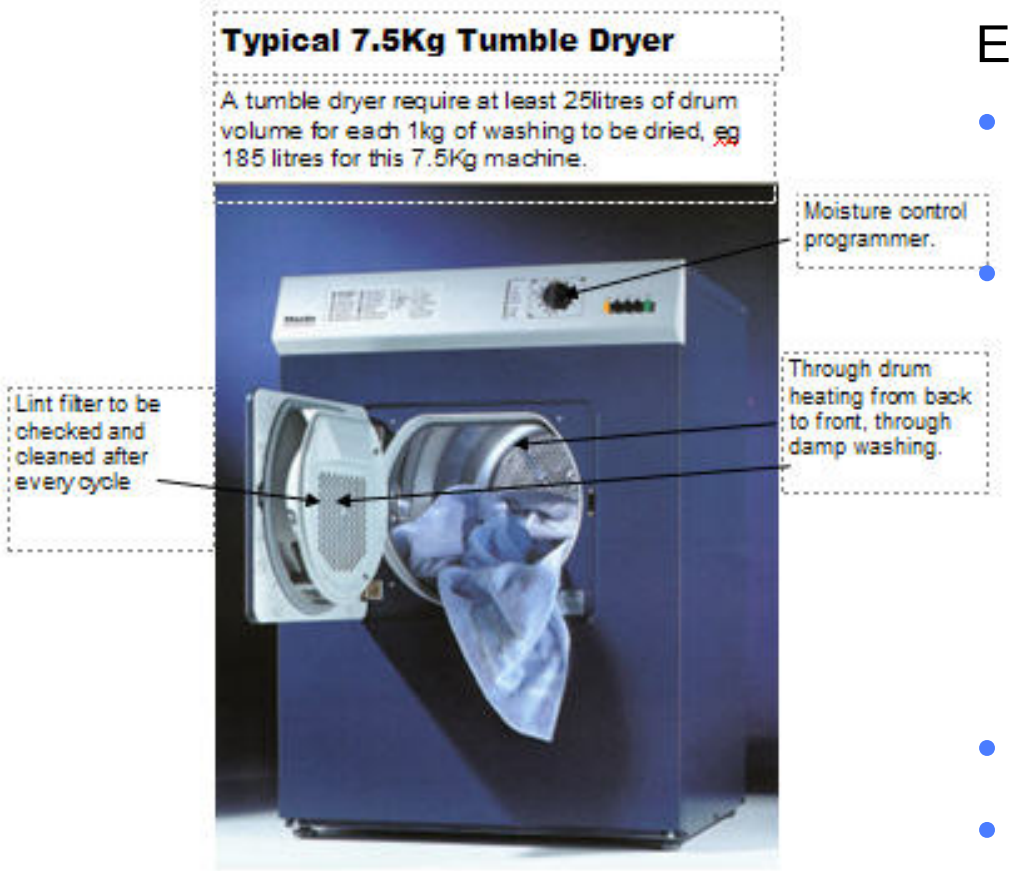
Market Overview

- About 2 – 3 million of commercial washer/dryer installed in the United States, with 10% replaced every year
- About 70% of the commercial application use gas

New commercial gas dryer installation in California: ~16,000/year

- Commercial gas dryers are used much more frequently than residential gas dryers!

Commercial Gas Dryer Technology



Energy consumption determined by:

- Component efficiency (combustion system and motor)
- Control scheme
  - Simple timer control
  - Sensing temperature in the exhaust
  - Sensing moisture in the drum
  - "perma-press" cycle: use cold air at the end of the cycle
- Gas modulation
- Flow pattern control inside the drum

Energy Savings Potential

- DOE savings estimation for potential standards improvement for residential gas dryers:

  ~ 0.06 quads (cumulative from 2008 to 2030)
- Commercial laundry energy consumption represents about 14% of total domestic laundry
- Typically commercial dryer operated > 416 cycles/year
- Average gas consumption: ~0.17 Therms/cycle
- California savings potential: ~ 0.3 Million therms/year

Proposed New Commercial Dryer Appliance Standard

- Adopt testing standards and require manufacturers to list certified performance data
  - Based on federal residential clothes dryer test standards
  - Improvements for distinguishing performance of advanced controls from simple timer control
- Establish tier 1 minimum performance standards, which are equivalent to federal residential gas dryer standards
  - Energy factor: 2.67 lbs/kWh
- Require the use of high-efficiency motors
- Require moisture sensor control